

REMARKS

In the Final Rejection, the Examiner rejects Claims 1-26 under 35 USC §103 as being unpatentable over “admitted prior art” in combination with Kim et al. (US 2002/0054268). This rejection is respectfully traversed.

While Applicants are traversing this rejection, in order to advance the prosecution of this application, Applicants are amending Claims 1-26 so that the claims recite that the second EL layer is selected from the group consisting of a carrier injecting layer, carrier transporting layer and a carrier blocking layer.

Even assuming arguendo that there is the proper motivation or suggestion to combine the cited “admitted prior art” with Kim et al. (which Applicants do not admit), such a combination would include the feature of “performing plasma treatment in argon or hydrogen plasma” of Kim et al. as follow the steps of a method of manufacturing light emitting diode of:

forming an anode on insulating substrate;

forming an electroluminescent layer on anode;

performing plasma treatment to the electroluminescent layer in argon or hydrogen plasma;

and

forming cathode on electroluminescent layer.

However, in this assumed combined technique, the feature of the claims of the present application wherein the second EL layer is selected from the group consisting of a carrier injecting layer, carrier transporting layer and a carrier blocking layer is not disclosed or suggested by such a method. Therefore the Examiner’s rejection does not satisfy a prima facie obviousness case and the claims are patentable thereover.

Additionally, in the previous Office Action mailed on May 7, 2003, the Examiner contends that “admitted prior art” teaches adding Cs ions into electroluminescent layer to form an electron transportation layer or an electron injection layer. In contrast, the Description of the Related Art in the present application does not practically disclose forming an electron injection layer by adding Cs ions. Therefore, Applicants assume that the Examiner failed to contend by oversight and intended to contend that “admitted prior art” discloses that the electron transportation layer is formed by coevaporation using Cs ions, and accordingly, Applicants assume that the technique of combining “admitted prior art” and Kim et al. is obtained by substituting “performing plasma treatment in argon or hydrogen” for “forming an electron transportation layer by coevaporation using Cs ions”. In the combined technique, even if a good adhesion between the electroluminescent layer and the cathode could be obtained, that the part of electroluminescent layer where the plasma treatment has been performed cannot be an electron transportation layer. The function of good adhesion is due to O-H bonding structure by hydrogen plasma, while the other function of electron transporting property is due to Cs ions. Therefore, both the good adhesion and the electron transporting property cannot be satisfied at the same time. Consequently, the combined technique does not include the claimed feature of wherein the second EL layer is selected from the group consisting of a carrier injecting layer, carrier transporting layer and a carrier blocking layer.

Accordingly, for at least the above-stated reasons, the claims are patentable and it is respectfully requested that this rejection be withdrawn.

New Claims

Applicants are adding new claims herewith. Please charge our deposit account 50/1039 for the fee for those new claims.

Conclusion

It is respectfully submitted that the present application is now in a condition for allowance and should be allowed.

If any further fee is due for this amendment, please charge our deposit account 50/1039.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Mark J. Murphy', with a long, sweeping horizontal stroke at the end.

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